CANADIANA

JUL 5 1991

ASSIGNMENT BOOKLET
0702 Mathematics 7
Module 1

FOR STUDENT USE ONLY		FOR A.D.L.C. USE ONLY

FOR STUDENT USE ONLY

Date Module Submitted

_____

Time Spent on Module

_____

(If label is missing
or incorrect)

File Number

_____

Module Number _____

FOR A.D.L.C. USE ONLY

Assigned
      Teacher: _____

Module Grading: _____

Graded by: _____

Date Module Received:

_____

Module Assignment
Recorded _____

**Student's Questions
and Comments**

Apply Module Label Here

Name

Address

Postal Code

*Please verify that preprinted label is for
correct course and module.*

Teacher's Comments:

_____

Teacher

ALBERTA DISTANCE LEARNING CENTRE

MAILING INSTRUCTIONS FOR CORRESPONDENCE ASSIGNMENT BOOKLET

1. **BEFORE MAILING YOUR ASSIGNMENT BOOKLET PLEASE SEE THAT:**

    (1) All assignments are completed. If not, explain why.
    (2) Your work has been re-read to ensure accuracy in spelling and details.
    (3) The booklet cover is filled out and the correct module label is attached.

2. **POSTAGE REGULATIONS**

    Do **not** enclose letters with Assignments Booklets.

    Send all letters in a separate envelope.

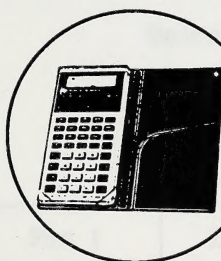3. **POSTAGE RATES**

    First Class

    Take your Assignment Booklet to the Post Office and have it weighed. Attach sufficient postage and a green first-class sticker to the front of the envelope, and seal the envelope. Correspondence Assignment Booklets will travel faster if first-class postage is used.

    Try to mail each Assignment Booklet as soon as it has been completed.

    When you register for correspondence courses, you are expected to send Assignment Booklets for correction regularly. Do not send more than one Assignment Booklet in one subject at the same time.

PROBLEM SOLVING
MODULE 1

ASSIGNMENT
BOOKLET

MATHEMATICS 7

Distance Learning

Alberta
EDUCATION

Mathematics 7
Assignment Booklet
Module 1
Problem Solving
Alberta Distance Learning Centre
ISBN No. 0-7741-0101-6

Cover Photo: WESTFILE INC.

Your mark on this module will be determined by how well you do on this assignment booklet.

This assignment booklet may be completed with the use of a calculator and resource materials. However, you must do the assignment **independently.**

The assignment has three parts.

　　Part 1 — Multiple-Choice Questions
　　Part 2 — Short-Answer Questions
　　Part 3 — Problems

Work slowly and carefully on the assignment. If you are having difficulties, review the appropriate section in your module booklet, but do not get help from anyone.

Be sure to proofread each assignment carefully.

Do not hand in this booklet until all questions are answered and the Student's Declaration has been completed.

Faxing?

If you are using a facsimile machine to submit your work, be sure to fill in the information at the bottom of every response page.

FOR TEACHER'S USE ONLY

Summary

Teacher's Comments

	Total Possible Marks	Your Mark
Part 1	20	
Part 2	30	
Part 3	30	
	80	

(20)

Part 1: Multiple-Choice Questions

Each of the following questions has four suggested answers, one of which is better than the others. Place the letter of the best answer in the blank on the response page.

1. Amber is two years older than Shawna and Shawna is one year older than Andrea. Which question can you answer using this information?

   a. How old is Amber?
   b. How old is Shawna?
   c. How much older is Shawna than Amber?
   d. How much older is Amber than Andrea?

2. One serving of ice cream has a mass of about 150 g. How much ice cream is needed to serve 20 students? Be sure to choose the most reasonable answer.

   a. 30 g
   b. 300 g
   c. 3 000 g
   d. 30 000 g

3. Which statement is **not** one of the techniques used to identify the necessary parts of a problem?

   a. Guess-check-revise
   b. Eliminate unnecessary information.
   c. Change the setting of the problem.
   d. Restate the problem.

4. Karen worked a total of 31 hours at a store during a 4-day sale. She worked an equal amount of time on each of the four days. How long did she work each day? Be sure to choose the most reasonable answer.

   a. 3 h
   b. 7 h
   c. 8 h
   d. 7.75 h

Part 1 Response Page

1. _____

2. _____

3. _____

4. _____

Name of Student	_____	Student I.D.#	_____
Name of School	_____	Date	_____

Part 1 (continued)

5. On a field trip 31 students are driven in cars. If four students can go in each car, how many cars are needed? Be sure to choose the most reasonable answer.

   a. 3 cars
   b. 7 cars
   c. 8 cars
   d. 7.75 cars

6. Consider the following problem.

   Problem: Twenty-four posts are used to enclose a square pen. The posts are placed 3 m apart. What is the length of one side of the pen?

   Which one of the following strategies would you use to solve the above problem?

   a. Make an organized list.
   b. Make a sketch.
   c. Find and apply a pattern.
   d. Simplify the problem.

7. The four stages used to solve a problem have been given simple names. Which simple name describes the stage called "trying the plan"?

   a. See
   b. So
   c. Hey Wait
   d. Think

8. In which stage of the four-stage process for problem solving should you consider the strategies that may be used to solve the problem?

   a. Developing a plan
   b. Looking back
   c. Trying the plan
   d. Understanding the problem

Part 1 Response Page (continued)

5. _____

6. _____

7. _____

8. _____

Part 1 (continued)

9. Consider the following problem.

   Problem: A, B, and C are waiting in a line-up to buy tickets for a hockey game. In how many different ways can they stand in line?

   Which of the organized lists below would provide the answer to the above problem?

   a. A-A-B　A-B-A　B-B-A　B-B-C　C-C-A　C-C-B
   b. A-B-C　B-C-A　C-A-B
   c. A-B-C-D　B-C-A-D　C-A-B-D　D-A-B-C
   d. A-B-C　A-C-B　B-A-C　B-C-A　C-A-B　C-B-A

10. Consider the following problem.

   Problem: There are a total of 15 animals in the barn. Some are chickens and some are kittens. If there are 42 legs in all, how many kittens are there?

   The above problem can be solved by using either of two strategies. What strategies would work?

   a. Making a sketch OR Simplifying the problem
   b. Simplifying the problem OR Finding and applying a pattern
   c. Finding a pattern OR Making a table
   d. Making a table OR Guessing-checking-revising

Part 1 Response Page (continued)

9. _____

10. _____

Total for Part 1 = _____ (maximum possible: 20 marks)

Name of Student _____   Student I.D.# _____

Name of School _____   Date _____

(30)

Part 2: Short-Answer Questions

Give the complete answers in the spaces provided on the response page.

4

1. List the four stages that are used to solve any problem.

4

2. In your own words explain how to solve the problem below.

   Problem: What is the total value of the 25-cent coins in a stack as high as the edge of a desk?

4

3. Five friends, A, B, C, D, and E always exchange greeting cards at holiday time. Make an organized list showing all the possible cards that would be sent each year. The list has been started for you.

Part 2 Response Page

1. a. _____

   b. _____

   c. _____

   d. _____

2. _____
   _____
   _____
   _____
   _____

3. A - B

   A - C

Name of Student _____ Student I.D.# _____

Name of School _____ Date _____

Part 2 (continued)

3   4. Change the setting of the problem below to something familiar to you. You can do this by changing numbers and details, but do not change the required mathematical operations.

        Problem: The total Canadian national debt in 1940 was $3 271 300 000. In 1987 the national debt was $264 101 000 000. During this time by how much did Canada's national debt increase?

3   5. Make a sketch that can be used to solve the following problem.

        Problem: Brian lives 45 km from work. One morning he drove 18 km before realizing that he had forgotten his lunch. He returned home for his lunch and then went to work. How far did he drive to get to work that morning?

Part 2 Response Page (continued)

4. Restatement:

   _____

   _____

   _____

   _____

   _____

5.

Name of Student _____   Student I.D.# _____

Name of School _____   Date _____

Part 2 (continued)

4

6. You have learned several strategies that can be used for solving problems. Some of these are listed below.

   - Using objects
   - Drawing a sketch
   - Making a table
   - Simplifying the problem
   - Finding and applying a pattern
   - Making an organized list
   - Guessing-checking-revising

   For each problem given, select the strategy that will be the most useful for solving that problem and write the name of the strategy on the response page.

   a. Twenty people came to a party and were introduced. How many handshakes would have been made if two people shake hands each time?

   b. Junior earns 25 cents each time he does the dishes and 10 cents each time he sweeps the floor. At the end of the week he has done 9 jobs and earned $1.65. How many times did he sweep the floor?

   c. The distance from Edmonton to Wild Horse in the south is 671 km. From Edmonton to Indian Cabins in the north is 915 km. What is the distance from Wild Horse to Indian Cabins?

   d. Betty must measure exactly 6 litres of water with only a 9-litre pail and a 4-litre pail. Explain how she can measure 6 litres in the fewest steps.

4

7. Consider the following problem.

   Problem: Anita spends three times as much time watching TV as she does reading. She watched TV for 15 hours one weekend. How many books did she read that weekend?

   a. There is not enough information to solve this problem. Supply the missing information.

   b. Solve the problem using this added information.

Part 2 Response Page (continued)

6. a. _____

    b. _____

    c. _____

    b. _____

7. a. _____

      _____

      _____

    b.

Name of Student _____ Student I.D.# _____

Name of School _____ Date _____

Part 2 (continued)

4

8. In the problem on the response page, underline the essential information only. Then, using the underlined parts, restate the problem in your own words on the response page.

Part 2 Response Page (continued)

Problem: Mr. Robinson has $1 303.64 in his bank account. He wants to buy a birthday present for his 13-year-old daughter. After shopping around for several days, he decides to get her a jewelry box valued at $129.95. This is a sale price and appears to be a good value. He buys the gift by writing a cheque. What is the new balance in his bank account after making his purchase?

8. Restatement:

_____

_____

_____

_____

Total for Part 2 = _____ (maximum possible: 30 marks)

Name of Student _____ Student I.D.# _____

Name of School _____ Date _____

(30)

Part 3: Problems

Choose any **five** of the following seven problems. Answer the question asked in a sentence. Be sure to show clearly how you arrived at your answer. Place your answers and your work on the appropriate response pages.

1. The planet Pluto is 4 423 200 000 km from the Sun at its nearest point. At its farthest point Neptune is 4 539 800 000 km from the Sun. When their orbits come together, how much closer to the Sun is Pluto than Neptune?

2. A bag contains two red chips and three black chips. How many different ways are there of removing the chips one at a time?

Part 3 Response Page

1.

2.

| Name of Student | _____ | Student I.D.# | _____ |
| Name of School | _____ | Date | _____ |

Part 3 (continued)

3. A certain computer "beeps" whenever the 4 key is typed. If Jasmine types all the numbers from 34 to 84, how many times will the computer "beep"?

4. Farmer John wants to build a corral using 9 posts on each of the longer sides and 4 posts on each of the shorter sides. How many posts does he need?

Part 3 Response Page (continued)

3.

4.

Name of Student _____   Student I.D.# _____

Name of School _____   Date _____

Part 3 (continued)

5. In each round of a tennis tournament, the players are grouped into pairs for a match with only the winner advancing to the next round. If 16 players start in the tournament, how many matches must be played before a single winner can be declared?

6. The Moars parked their car in a parking lot while they went shopping. How much did they pay if they parked from 10:15 a.m. until 2:45 p.m.?

Park — Your — Car	
First Hour	$0.75
Each additional hour or part of an hour	$0.25
Maximum	$3.00

7. The gym is open Monday through Saturday. Volleyball classes meet daily except Wednesday. Tennis is daily except Tuesdays and Saturdays. Daily classes are offered in table tennis. Swimming classes are held every other day starting on Mondays. Gymnastics instruction is available daily except Monday. What is the busiest day at the gym?

Part 3 Response Page (continued)

5.

6.

7.

Total for Part 3 = _____ (maximum possible: 30 marks)

Name of Student _____   Student I.D.# _____

Name of School _____   Date _____

Part 3 Response Page (continued 2/3)

3. Sixteen are involved in a tennis tournament. The players are grouped into sets of opponents where only the winner advances to the next round. If there were 16 players also in the tournament, how many matches must be played before a single winner can be declared?

4. The Moore parked their car in a parking lot while they went shopping. How much did they pay if they parked from 10:15 a.m. until 2:00 p.m.?

Park — Your — Car	
First Hour	$0.75
Each additional hour or part of an hour	$0.25
Maximum	$3.00

5. The pool is open Monday through Saturday. Volleyball classes meet every second Wednesday. Tennis is daily except Tuesdays and Thursdays. Lessons are offered in table tennis every other day starting on Mondays. Basketball is available every day except Monday. What is

Alberta Distance Learning Centre Declarations

The Student's Declaration is to be filled in by a student registered at the Alberta Distance Learning Centre. If the student is under 16, the Learning Facilitator's Declaration is to be filled in by the learning facilitator. Failure to complete this page may invalidate the assignment results.

Student's Declaration

- I have followed the instructions outlined in the module booklet.
- I have done the activities to prepare myself for the assignments in this assignment booklet.
- I have done these assignments in the assignment booklet by myself.

_____
Student's Signature

Learning Facilitator's Declaration

I hereby certify that I have supervised the learning activities done by _____
(state student's name)

I also certify that to the best of my knowledge these assignments in this assignment booklet were done independently by this student.

_____
Learning Facilitator's Signature

If either the learning facilitator or the student have any comments or observations regarding this module, write them below.

_____

_____

_____

_____

_____

_____

Name of Student _____ Student I.D.# _____

Course Name _____ Date _____

10/90

Mathematics 7

9MA07W11

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